

Dragon Warrior Unmanned Aerial Vehicle (UAV)

Purpose: This effort will develop a fully autonomous, HMMWV-transportable, small UAV system for reconnaissance, surveillance, target acquisition (RSTA), and communication relay missions. The Dragon Warrior (DW) will be employed as a Regimental or MEU level asset, have complete shipboard compatibility, and require minimal maintenance and time to train.

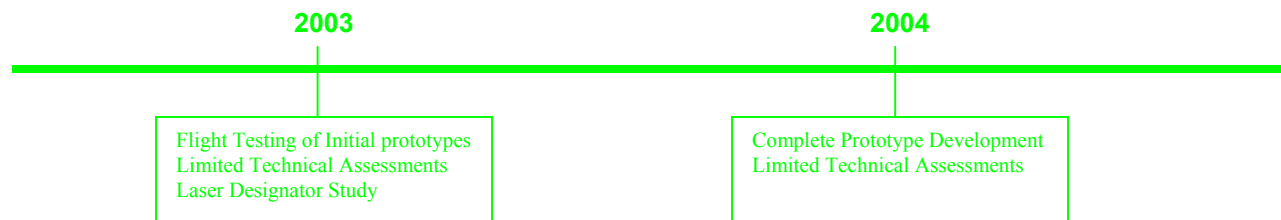
Background: *Hunter Warrior* and *Urban Warrior* experimentation highlighted the need for a more capable UAV for use on the extended battlefield. Use as an in extremis communications relay permits the force commander to place a relay over the battlefield when intervening obstacles interrupt line of sight communications. In addition, the value of a ubiquitous RSTA platform for a variety of sensors that can provide real time data from the battlefield is essential to our emerging concepts of *Expeditionary Maneuver Warfare* and *Ship-to-Objective Maneuver* by providing an additional node on the emerging Naval and Joint sensor networks. This initiative is a technology candidate for the Close Range UAV Requirement.



Description: A fully autonomous vehicle being developed by the Lab and the Naval Research Lab. Current specifications call for the UAV to have a fuselage of approximately 7 feet and a rotor of approximately 8 feet in length. This UAV is being designed to have a maximum speed of 110 knots, a range of 50 nautical miles (maximum range of video down link) with one hour loiter ability. Endurance will be 3-5 hours based on the mission profile. It will be shipboard compatible and employ a heavy fuel engine. The UAV will have a maximum gross weight of 300 lbs. Payload weights will vary between 25 and 35 pounds depending on the mission profile. It will be equipped initially with an EO/IR sensor with laser range finder, with future upgrades to a laser designator. The flight profile is intended to operate fully autonomously; while payloads are controlled via a High Mobility Multipurpose Wheeled Vehicle (HMMWV) mounted Ground Control Station. The entire system, aircraft and data link hardware will fit into a single HMMWV.

Deliverable Product(s): Prototypes and assessment based on operational experimentation.

Milestones:



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